

Integrated Unit Topic: Number- Skills and Patterns		
<b>Year: 7</b> <b>Level: 3,4,5</b> <b>Term: 1</b> <b>Duration: 1 hour</b>	<b>Focus Statement: This lesson will assess student’s current knowledge in relation to number and initiate the development of a Mathematical Glossary. Student will investigate the properties of numbers and identify factors and prime numbers.</b>	
	<p>At Level 4, students comprehend the size and order of small numbers (to thousandths) and large numbers (to millions). They model integers (positive and negative whole numbers and zero), common fractions and decimals. They place integers, decimals and common fractions on a number line. They create sets of number multiples to find the lowest common multiple of the numbers. They interpret numbers and their factors in terms of the area and dimensions of rectangular arrays (for example, the factors of 12 can be found by making rectangles of dimensions 1 × 12, 2 × 6, and 3 × 4).</p> <p>Students identify square, prime and composite numbers. They create factor sets (for example, using factor trees) and identify the highest common factor of two or more numbers. They recognise and calculate simple powers of whole numbers (for example, 2<sup>4</sup> = 16).</p> <p>Students use decimals, ratios and percentages to find equivalent representations of common fractions (for example, <sup>3</sup>/<sub>4</sub> = <sup>9</sup>/<sub>12</sub> = 0.75 = 75% = 3 : 4 = 6 : 8). They explain and use mental and written algorithms for the addition, subtraction, multiplication and division of natural numbers (positive whole numbers). They add, subtract, and multiply fractions and decimals (to two decimal places) and apply these operations in practical contexts, including the use of money. They use estimates for computations and apply criteria to determine if estimates are reasonable or not.</p>	
Teaching Strategies		
<b>Shared Experiences</b>	<b>Common Assessment Tasks</b>	<b>Other</b>
<b>Journal</b>  <b>Rectangle problem</b>  <b>Red Blue</b>	<b>Pre test</b> <b>Brainstorm should give some understanding of the prior knowledge of students. Teacher should move around the tables observing individual student contributions.</b>	<b>Students will need an exercise book to act as glossary and journal.</b>
Resources:		
<b>Texts</b>	<b>ICT</b>	<b>Other materials</b>
		<b>Foam squares</b> <b>Multiple coloured white board markers</b> <b>Coloured markers</b> <b>A3 paper</b>

## Time line

Time	Activity	Materials	Script
<b>Introduction:</b> <b>5 minutes</b>	<b>What are we doing today?</b> <ul style="list-style-type: none"> <li>• Topic – Number</li> <li>• Mathematical Language (Vocabulary)</li> <li>• Developing a Mathematical Glossary</li> </ul>	<b>Coloured markers</b>	<b>What do you think title number might be about?</b>  <b>What is a glossary?</b> <b>How do we use it?</b>
<b>Activity 1:</b> <b>Explanation 2 min</b>  <b>Student work time 3 minutes</b>  <b>Feedback 5 min</b>  <b>5 min</b>  <b>Feedback – 15-20 min</b>	<b>Brainstorm:</b> <ul style="list-style-type: none"> <li>• Students work in groups to create a collection of mathematical terms related to number</li> <li>• Come together and get feedback from each table.(one from each table – record responses on the board)</li> <li>• Select 10 words get tables to write a definition for each of these.</li> <li>• Discuss the definitions develop an</li> </ul>	<b>Coloured markers</b> <b>A3 paper</b>	<b>How many words can your table come up with that relate to the topic of number?</b> <b>This is a competition so keep your ideas to your own table if you speak too loudly other tables will steal your ideas. You will get 1 point for each appropriate word you come up with and an extra point for each which is proper mathematical vocabulary Extra point for any of these that no one else has.</b>

	<b>agreed definition</b>		
<b>10 min</b>	<ul style="list-style-type: none"> <li>Record in glossary.</li> </ul>		
<b>12 square activity</b> <b>20 min</b>	<p>How many different rectangles can you make?</p> <p>12 – (1, 12)(2,6)(3,4)  9 – (1,9) (3,3)  21 – (1,21)(3,7)  16- (1,16)(2,8)(4,4)  17- (1-17)</p> <p>Extension task – how many square numbers can you find up to 100  How many prime numbers can you find up to 100</p>	<p>Foam squares</p> <p>Ensure the following terms are included in the glossary</p> <ul style="list-style-type: none"> <li>Factors</li> <li>Prime number</li> <li>Square numbers</li> <li>Array</li> </ul>	<p>Record all of your responses in your book – pictures numbers words</p> <p>What did you notice about these numbers?</p>
<b>Journal Entry</b> <b>5 minutes</b>			<p>What was the activity about today?</p> <p>What knowledge did you demonstrate?</p> <p>What was your opinion about this activity?</p>
<b>If time permits</b> <b>Red blue activity</b>			

<b>Unit of work:</b>								
	<b>Verbal/ Linguistic</b>	<b>Mathmatical/ Logical</b>	<b>Spatial/Visual</b>	<b>Body/ Kinesthetic</b>	<b>Music/ Rhythmic</b>	<b>Interpersonal</b>	<b>Intrapersonal</b>	<b>Naturalist</b>
<b>Remembering</b>	Vocab brainstorm					Vocab brainstorm		
<b>Understanding</b>								
<b>Applying</b>								
<b>Analysing</b>		12 squares		12 squares		12 squares		
<b>Synthesis/Cre ating</b>								
<b>Evaluation</b>	journal						journal	